

CALIFORNIA COASTAL COMMISSION

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Extension Denied: 8/8/06
180th day from
extension denial: 2/4/07
Staff: Meg Vaughn- LB
Staff Report: 11/16/06
Hearing Date: 12/12-15/06
Commission Action:

**STAFF REPORT: REGULAR CALENDAR****APPLICATION NUMBER:** 5-06-439**APPLICANTS:** See Table Below**PROJECT LOCATIONZ:** See Table Below, Huntington Beach, Orange County

Applicant	Location/Address
Baghdassarian, Ruben & Cheryl	3492 Venture Drive, Trinidad Island
Kreisel, Gregory D.	3512 Venture Drive, Trinidad Island
Johnson, Barbara	16425 Ladona Circle, Humbolt Island

AGENT: Tetra Tech, Inc.: Natalie Chan, Fernando Pagés, and Sarah McFadden

PROJECT DESCRIPTION: Repair and enhancement of existing bulkhead/seawall. No plastic sheetpile is proposed. However, eelgrass impacts will occur as a result of the proposed project.

LOCAL APPROVAL: City of Huntington Beach Approval in Concept;
Negative Declaration No. 00-05.

SUMMARY OF STAFF RECOMMENDATION

Certain types of bulkhead repairs/enhancements in Huntington Harbor propose use of a plastic sheetpile known as Shoreguard. At the Commission's August 2006 hearing, the Commission denied permit extensions for previously authorized bulkhead repairs/enhancements because concerns regarding the use of plastics in the marine environment had not been addressed. Upon denial of a permit extension request, the development must be set for a full hearing and re-review of the matter by the Commission. The subject application is a companion to three other applications (5-06-436, 5-06-437, and 5-06-438) for bulkhead repairs, all of which are back before the Commission as part of the re-review of the previously authorized but now-expired permits. Since denial of the permit extensions, the applicants have re-organized their proposal and grouped them by type of repair/enhancement and types of impacts. The subject application only includes bulkheads with repairs limited to the placement of filter fabric and toe stone; no sheetpile would be used for this repair because the bulkhead damage is sufficiently limited. However, the proposed toe stone will impact eelgrass beds in the project area. Staff is recommending approval of the proposed project subject to special conditions: 1) Compliance with plans as submitted; 2) conformance with construction responsibilities and debris removal

measures; 3) Compliance with the proposed Eelgrass Mitigation Plan; 4) pre-construction Caulerpa taxifolia survey; 5) recognition that approval of the permit does not constitute a waiver of any public rights that exist or may exist on the property, and, 6) a requirement for an anchor management plan.

The applicant is in agreement with the special conditions.

See below for the motion.

SUBSTANTIVE FILE DOCUMENTS: City of Huntington Beach Approval in Concept; Negative Declaration No. 00-05.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution to **APPROVE** the coastal development permit application with special conditions:

MOTION: *"I move that the Commission approve with special conditions Coastal Development Permit 5-06-439 per the staff recommendation."*

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

I. Resolution: Approval with Conditions

The Commission hereby **APPROVES** a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. Special Conditions

1. Compliance With Plans Submitted

The permittee shall undertake development in strict conformance with the proposal and plans as set forth in the application for permit, subject to any special conditions set forth in this coastal development permit approval. Any proposed changes to or deviations from the approved plans shall be reported to the Executive Director. No changes to the approved plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

2. Construction Responsibilities and Debris Removal

The permittee shall comply with the following construction-related requirements:

- (a) No construction materials, debris, waste, or oils and liquid chemicals shall be placed or stored where it may be subject to wave erosion and dispersion;
- (b) Any and all debris resulting from construction activities shall be removed from the site within 10 days of completion of construction;
- (c) No machinery or construction materials not essential for project improvements shall be allowed at any time in the intertidal zone;
- (d) Sand from the beach, cobbles, or shoreline rocks shall not be used for construction material;
- (e) In order to control turbidity a geotextile fabric shall be installed in the area where the toe stone will be placed prior to placement of the toe stone;
- (f) Toe stone shall be placed, not dumped, using means to minimize disturbance to bay sediments and to minimize turbidity;
- (g) If turbid conditions are generated during construction a silt curtain shall be utilized to control turbidity.

3. Eel Grass Mitigation

- A. Compliance with Eelgrass Mitigation Plan.** The applicant shall implement and comply with the recommendations and mitigation contained within Eelgrass Mitigation Plan, Revised January 2006, Huntington Harbour Bulkhead Repair Project, prepared by Tetra Tech., Inc. as it pertains to the development that is the subject of this coastal development permit. The mitigation plan shall be undertaken in full compliance with the “Southern California Eelgrass Mitigation Policy” Revision 8 (except as modified by this condition) adopted by the National Marine Fisheries Service. Any changes to the approved mitigation plan, including but not limited to changes to the monitoring program to ensure success of the eelgrass mitigation site, shall require an amendment to this permit from the Coastal Commission or written concurrence from the Executive Director that the changes do not require a permit amendment.
- B. Pre-construction Eelgrass Survey.** A valid pre-construction eelgrass survey shall be completed during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth. The survey shall be prepared in full compliance with the “Southern California Eelgrass Mitigation Policy” Revision 8 (except as modified by this condition) adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Game. The applicant shall submit the new eelgrass survey for the review and approval of the Executive Director within five (5) working days of completion of the new eelgrass survey and in any event no later than fifteen (15) working days prior to commencement of construction. If the new survey identifies, within the proposed project area, any eelgrass which is not documented in the eelgrass survey described in Special Condition No. 3.A. above, the newly identified eelgrass shall be transplanted prior to commencement of construction at a 1.2:1 ratio at the same transplantation locations identified in the eelgrass mitigation plan described in Special Condition No. 3.A. above. The transplantation shall occur consistent with all provisions of the mitigation plan described in Special Condition 3.A.
- C. Post-construction Eelgrass Survey.** After completion of project construction, the applicant shall survey the project site to determine if any eelgrass was adversely impacted. This post-construction survey shall be completed in the same month as the pre-construction survey during the next growing season immediately following the completion of construction within coastal waters. The survey shall be prepared in full compliance with the “Southern California Eelgrass Mitigation Policy” Revision 8 (except as modified by this condition) adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Game. The applicant shall submit the post-construction eelgrass survey for the review and approval of the Executive Director within thirty (30) days after completion of the survey. If the new survey identifies, within the proposed project area, any eelgrass impacts which is not documented in the eelgrass surveys described in Special Condition No. 3.A. and 3.B. above, the newly identified eelgrass impacts shall be mitigated by the applicants at a 1.2:1 ratio at the same

locations identified in the eelgrass mitigation plan described in Special Condition No. 3.A. above and in accordance with the mitigation plan described in Special Condition No. 3.A. above.

4. Pre-Construction Caulerpa taxifolia Survey

- A. Not earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development permit (the “project”), the applicants shall undertake a survey of the project area and a buffer area at least 10 meters beyond the project area to determine the presence of the invasive alga *Caulerpa taxifolia*. The survey shall include a visual examination of the substrate.
- B. The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Marine Fisheries Service.
- C. Within five (5) business days of completion of the survey, the applicants shall submit the survey:
 - i. for the review and approval of the Executive Director; and
 - ii. to the Surveillance Subcommittee of the Southern California Caulerpa Action Team (SCCAT). The SCCAT Surveillance Subcommittee may be contacted through William Paznokas, California Department of Fish & Game (858/467-4218) or Robert Hoffman, National Marine Fisheries Service (562/980-4043), or their successors.
- D. If *Caulerpa taxifolia* is found within the project or buffer areas, the applicants shall not proceed with the project until 1) the applicants provide evidence to the Executive Director that all *C. taxifolia* discovered within the project area and all *C. taxifolia* discovered within the buffer area have been eliminated in a manner that complies with all applicable governmental approval requirements, including but not limited to those of the California Coastal Act, or 2) the applicants have revised the project to avoid any contact with *C. taxifolia*. No revisions to the project shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

5. Public Rights

The Coastal Commission’s approval of this permit shall not constitute a waiver of any public rights that exist or may exist on the property. The permittee shall not use this permit as evidence of a waiver of any public rights that may exist on the property.

6. Anchor Management Plan

- A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the review and approval of the Executive Director, a plan for the avoidance of adverse impacts upon eelgrass due to the placement of anchors utilized by barges in construction of the proposed project. The plan shall be prepared by a qualified professional and shall include the following:
1. The plan shall demonstrate that the use of anchors by barges utilized in the proposed project will avoid impacts upon eelgrass beds.
 2. The plan shall include, at a minimum, the following components: a map showing the proposed location of barges and anchors with respect to existing eelgrass beds.
- B.** The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description

The proposed project includes repair and enhancement of existing bulkheads/seawalls. The subject properties front on the waters of Huntington Harbour. The developments are located on Humbolt and Trinidad Islands within Huntington Harbour, City of Huntington Beach, Orange County (Exhibit 1). Humbolt and Trinidad Islands are artificial islands surrounded by cast in place, concrete seawall/bulkheads constructed in the 1960's. The islands are developed primarily with single family residences. The majority of development in Huntington Harbour is dependant upon these types of bulkheads. The existing bulkhead systems in Huntington Harbour were all constructed at approximately the same time using a similar design. Therefore, the problems with the bulkheads encountered on Trinidad Island are similar to those experienced on Humboldt Island.

Specifically, development proposed includes: rock slope protection (a.k.a. toe stone) placed at a 2(h) to 1(v) slope seaward of the existing bulkhead. A layer of geotextile fabric will be placed beneath the proposed toe stone to prevent the toe stone from sinking into the bay mud. The length of bulkhead involved at each property varies as does the quantity of toe stone to be placed and the width of the proposed toe stone from the existing bulkhead. The proposed slope protection toe stone will consist of 8-inch diameter or less quarry waste with a mixture of particles ranging from sand to stones less than 8 inches in diameter. The applicants' coastal engineer has stated that this type of toe stone will not

migrate or accrete to other areas under the hydrodynamic conditions at the subject site (see Appendix A for reference to engineering study). Therefore, the proposed solution will not replicate the problems associated with the previous protective toe stone structure.

The proposed bulkhead repair and enhancement is necessary to protect the existing bulkhead and the residential structures landward of the bulkhead. The existing bulkheads are reinforced concrete cast in place structures supported on vertical and battered (i.e. angled) timber piles built in the 1960's. The applicant has stated that this bulkhead was designed with toe stone placed seaward of the footing at a slope of 3(h) to 1(V). Due to the size and weight of the formerly present toe stone, the protective stones have either sunk into the bay mud or migrated away from the bulkhead. In absence of the toe stone, the unconsolidated fine silty and sandy sediments have easily eroded due to tidal currents, propeller wash from recreational boats, maintenance dredging, and the activity of burrowing fish (e.g. the specklefin midshipman).

The most recent eelgrass surveys for the subject sites indicate that eelgrass is present within the project site and will be impacted by the proposed placement of toe stone. Following is a table indicating the area of eelgrass found at each project site and the anticipated area of eelgrass impact due to the project.

Applicant	Address	Total Area of Eelgrass		Estimated Impact to Eelgrass	
		Meters	Feet	Meters	Feet
Baghdassarian	3492 Venture Drive	28.1	302.4	13.2	141.7
Freiborg	3742 Nimble Circle	34.7	373.4	2.2	23.9
Kriesel	3512 Venture Drive	15.2	163.8	6.1	66.0
Johnson	16425 Ladona Circle	4.9	52.9	2.5	27.2

The applicants also propose to mitigate for impacts upon eelgrass with an eelgrass restoration project which is described in the Eelgrass Mitigation Plan, Revised, January 2006, Huntington Harbour, Bulkhead Repair Project, prepared by Tetra Tech, Inc. The Eelgrass Mitigation Plan (Plan) proposes to transplant eelgrass at the same site as that where the impacts will occur, at a ratio of 1:1.2 (eelgrass impacted:eelgrass planted), consistent with the National Marine Fisheries and California Department of Fish & Game Southern California Eelgrass Mitigation Policy (revised 8/30/05). The total figure for the amount of eelgrass to be planted will be based on a post-construction eelgrass survey. Also proposed is monitoring of the transplanted eelgrass, and measures to be implemented should the mitigation plan not achieve the required success criteria.

B. Standard of Review

The City of Huntington Beach Local Coastal Program (“LCP”) is effectively. However, the proposed projects are located seaward of the mean high tide line and thus are within the Coastal Commission’s original permit jurisdiction area. Therefore, pursuant to Section 30519 of the Coastal Act, the standard of review for the permit approvals was the Chapter 3 policies of the Coastal Act, and the issue before this Commission on this extension request is whether there are changed circumstances that affect the consistency of the

development with the Chapter 3 policies of the Coastal Act. However, the certified LCP may be used for guidance in evaluating the proposed project for consistency with the Chapter 3 policies of the Coastal Act.

C. Project Background

The proposed bulkhead repair projects were originally approved by the Commission under coastal development permit 5-00-401, except the project located at 16425 Ladona Circle was approved under coastal development permit 5-99-030. As a condition of approval of those permits, the applicants were required to provide, prior to issuance of the permit, evidence of an approved and valid coastal development permit for the implementation of the eelgrass mitigation plan. This condition was never met and the permits were never issued.

The project currently proposed includes an acceptable eelgrass mitigation plan (as discussed later in this report) to mitigate the anticipated impacts to eelgrass caused by the bulkhead repair projects.

Extension requests for coastal development permits 5-99-031, 5-99-032, 5-00-390 and 5-00-401 were requested by the project applicants. However, each of those permits included some sites that proposed to use polyvinyl chloride (PVC) plastic sheet piles. Because of the Commission's concern regarding adverse impacts potentially caused by the use of plastic in the marine environment, the extension requests were denied at the Commission's August 8, 2006 hearing. Since that action, the project sites have been re-grouped based on project impacts. The project sites that are included in this application do not propose to use sheet pile, and consist only of placement of toe stone.

Coastal development permit 5-99-030, for bulkhead repairs at 16425 Ladona Circle, expired without an extension request. That project has now been added to the subject coastal development permit application, and as it raises the same concerns, will be considered together with those projects. Like the other projects included in this permit application, this project does not propose to use sheet pile and consists only of placement of toe stone.

D. Shoreline Protective Devices

Section 30235 of the Coastal Act states:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

The proposed development involves structural reinforcements to protect existing bulkheads that are necessary to protect existing homes. Trinidad and Humbolt Islands are located in Huntington Harbour. The slope seaward of the bulkhead has eroded. The mud line at the subject sites has dropped between 3 to 27 inches below the bottom of the

footing of the existing bulkhead. However, at this stage, there are minimal voids beneath the footing of the bulkhead at the subject sites. Accordingly, the applicant has stated that the placement of protective toe stone will be adequate to prevent additional erosion and the development of voids with subsequent damage to the timber piles. If protective measures are not implemented at this stage, more extensive structural reinforcements would be necessary to protect the bulkhead.

The proposed project involves the fill of coastal waters with toe stone. The purpose of the proposed fill is to protect existing structures, which is not one of the eight allowable uses enumerated under section 30233 of the Coastal Act. However, as stated in the policy above, section 30235 of the Coastal Act requires the Commission to approve revetments and other similar structures provided that such structures are for the purpose of protecting existing structures and provided that the structures are designed to eliminate or mitigate adverse impacts on local shoreline sand supply. The proposed structure is for the purpose of protecting existing structures. In addition, the proposed project is occurring within an urban harbor at a location isolated from the nearest open coastal shoreline and longshore littoral sand transport mechanisms. The proposed placement of toe stone has been designed to minimize the amount of fill of coastal waters. Furthermore, bathymetric conditions were evaluated at the site in order to establish the minimum amount of toe stone necessary to protect the bulkhead and to minimize the amount of soft bay bottom covered which may contribute to shoreline sand supply. Therefore, in this case, by minimizing the area of soft bay bottom covered, the proposed project mitigates adverse impacts on local shoreline sand supply. Accordingly, the proposed project is approvable under section 30235 of the Coastal Act rather than section 30233 of the Coastal Act.

The applicant's coastal engineer indicates that the proposed project is the least environmentally damaging feasible alternative. Section 30108 of the Coastal Act states that "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors. Alternatives considered were: 1) no project; 2) soft bottom fill; 3) placement of cement slurry to form a protective concrete shield; 4) placement of course rock; 5) installation of a deepened plastic sheet pile which would extend below the depth of scour, instead of the proposed toe stone, to prevent the formation of voids underneath the bulkhead; 6) landward placement of a sheetpile; and 7) minimizing the amount of toe stone placed in front of the bulkhead.

According to the applicant, the no project alternative would not be the least environmentally damaging feasible alternative because without the project the bulkhead at the subject site would lose structural integrity, causing the bulkhead to fail. If the bulkhead were allowed to fail, it would collapse into the harbor. Debris from the collapsed bulkhead would likely fall upon sensitive marine habitat resulting in impacts upon that habitat. In addition, sediment released from behind the collapsed bulkhead would enter the water column causing turbidity and potentially smothering eelgrass beds which exist in the general project area. Furthermore, debris from the collapsed bulkhead would result in the fill of coastal waters, covering soft bottom habitat. The proposed project would have less impact than the no project alternative because possible impacts upon eelgrass and any permanent impacts upon soft bottom habitat will be controlled and mitigated under the

proposed project while such impacts from the no project alternative would be uncontrolled and much more extensive.

The second alternative is to use soft bottom fill to fill in the gap forming at the base of the bulkhead/seawall. Such soft bottom fill could come from dredging projects undertaken in the harbor, similar to the routine dredging projects in Newport Bay which dispose of suitable dredge material in front of the bulkheads in Newport Bay to protect those bulkheads. In Newport Bay, the bulkheads are designed without the type of timber pile foundation used in Huntington Harbor and which must be protected using toe stone. Unlike in Huntington Harbour, the bulkhead/seawalls in Newport Bay are not reliant upon a protective swath of toe stone. Therefore, the use of soft bottom fill in Newport Bay provides adequate protection to the bulkhead. Meanwhile, the threat of damage to the bulkhead/seawall system in Huntington Harbour due to erosion and undermining is much greater at the project sites than in Newport Bay due to the differences in the design of the bulkhead systems in each harbor. The bulkheads in Huntington Harbour were designed with timber piles which provide the foundation for the concrete bulkhead/seawall. A protective swath of toe stone at the base of the bulkhead/seawall was part of the design. The protective toe stone is necessary to ensure that soil does not erode from around the timber pilings exposing them to marine boring organisms. The applicant has stated that the soft bottom fill alternative is not a feasible solution in Huntington Harbour because it would replicate the existing condition. Once placed against the footing, erosive forces would rapidly erode the unconsolidated fine silty and sandy sediments in the same fashion that the existing sediment has eroded. In addition, if soft bottom fill were used to protect the subject sites, re-nourishment of the soft bottom fill would need to occur frequently. This frequent re-nourishment would cause frequent disturbance to marine habitat and any eelgrass which may exist in the general vicinity of the project site. Whereas, the use of toe stone is anticipated to provide protection for several decades, thus reducing the frequency of disturbance to the site. Therefore, the proposed solution is less environmentally damaging than the second alternative.

The third alternative, placement of cement slurry for slope protection, would not be less environmentally damaging than the proposed solution. It is anticipated that the proposed toe stone will provide a suitable substrate for colonization by marine organisms. In addition, over time it is anticipated by the applicant that sediment will settle upon the proposed toe stone. Providing that there is adequate sunlight it is also anticipated by the applicant that conditions may allow colonization of the toe stone by eelgrass. However, the use of a cement slurry for slope protection would not provide a suitable substrate for colonization by marine organisms. Therefore, the proposed solution is less environmentally damaging than the third alternative. Furthermore, the placement of cement slurry only would not provide the shoring that is necessary to stabilize the existing bulkhead.

The fourth alternative, placement of course rock only, would also have greater environmental damage than the proposed solution. The placement of course rock, instead of the proposed mixture of 8-inch diameter or smaller quarry waste, would replicate the problems associated with the previous protective structure. Due to the presence of unconsolidated fine silty bay mud and existing hydrodynamic conditions, course rock would tend to sink into the bay mud or migrate from the slope targeted for protection.

Accordingly, the course rock would need to be replaced over time, with the attendant construction related impacts upon the marine environment. Therefore, the proposed solution is less environmentally damaging than the fourth alternative. Furthermore, the placement of course rock only would not provide the shoring that is necessary to stabilize the existing bulkhead.

The fifth alternative, placement of a deepened sheet pile in place of the proposed toe stone, is not feasible. Deepened sheetpiles would intersect the existing battered timber piles which angle seaward under the bulkhead below the harbor floor, cutting into those support piles (see Exhibit 2 for view of existing bulkhead and timber pile configuration). To avoid this, the deepened sheetpile would have to be located substantially seaward in order to avoid intersecting the battered timber piles and fill would have to be placed between the sheet pile and existing bulkhead. Therefore, the fifth alternative is not a feasible solution to the present problem nor is it the least environmentally damaging alternative.

The sixth alternative would involve the installation of a sheetpile landward of the face of the existing bulkhead and then removing the portion of the existing bulkhead seaward of the newly installed sheet pile. The applicant has stated that this alternative is not technically feasible because the foundation slab for the existing bulkhead extends at least 10 feet landward of the face of the existing bulkhead to a point underneath existing patios and houses which are built upon the lot. If a sheet pile were installed landward of the existing bulkhead the sheet pile would need to penetrate through the foundation slab of the existing bulkhead. First, a plastic or steel sheet pile is not strong enough to penetrate the concrete foundation slab of the bulkhead. In addition, even if a strong material could be found to penetrate the concrete foundation slab, the portion of the existing bulkhead seaward of the newly installed sheet pile would lose structural integrity and collapse into the harbor. Any methods used to temporarily stabilize the bulkhead seaward of the sheet pile would require the placement of structures in the water, resulting in impacts similar or greater than the proposed project. Therefore, the sixth alternative is neither technically feasible or the least environmentally damaging feasible alternative.

The seventh alternative, which is the proposed alternative, is to minimize the impact of the proposed design by minimizing seaward encroachment by minimizing the amount of toe stone placed in front of the bulkhead. Minimizing the seaward encroachment of the toe stone from the bulkhead also minimizes permanent impacts upon soft bottom habitat. In addition, the applicant is proposing to mitigate for the impacts to soft bottom habitat. Therefore, the proposed project is the least environmentally damaging feasible alternative.

The proposed bulkhead repair and reinforcement is necessary to protect the existing bulkheads and single family residences. In addition, the proposed development mitigates adverse impacts upon shoreline sand supply and is the least environmentally damaging feasible alternative. Therefore, the Commission finds that the proposed project is consistent with Section 30235 of the Coastal Act.

E. Marine Habitat

Section 30230 of the Coastal Act requires that marine resources shall be maintained, enhanced, and where feasible, restored. Section 30230 of the Coastal Act states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30230 of the Coastal Act requires that marine resources be protected and that the use of the marine environment be carried out in a manner that will sustain the biological productivity of coastal waters. The proposed deposition of material above and below the mean high tide line may impact marine resources. Therefore, mitigation measures are necessary to protect the biological productivity of coastal waters.

1. Soft Bottom Habitat

The proposed development is occurring in the waters of Huntington Harbour. Except at extreme low tides, the development area would be underwater. The proposed project will result in the coverage of vegetated and unvegetated soft bottom habitat. Placement of the rock slope protection against the toe of the bulkhead will result in temporary soft bottom impacts. These soft bottom areas contain infaunal clam beds consisting of wavy chione, California chione, and common littlenecks. The applicant estimates that while the toe stone will bury the existing soft bottom habitat and clam beds, the toe stone will be re-colonized naturally by marine organisms within three to five years.

The California Department of Fish and Game (CDFG) has reviewed the proposed development. In their memorandum to Commission staff dated July 6, 1999 regarding the similar project at Humboldt Island, CDFG stated that the proposed impact upon unvegetated soft bottom habitat will be short term and will not be significant (see Exhibit 4). Furthermore, since the proposed toe stone will be placed at a slope of 2(h):1(v) rather than the 2(h):1(v) present in the original bulkhead design, there will be less toe stone covering the soft bay bottom with the repaired bulkhead than there was with the original design.

2. Eelgrass

Eelgrass (*Zostera marina*) is an aquatic plant consisting of tough cellulose leaves which grows in dense beds in shallow, subtidal or intertidal unconsolidated sediments. Eelgrass is considered worthy of protection because it functions as important habitat for a variety of fish and other wildlife, according to the Southern California Eelgrass Mitigation Policy (SCEMP) adopted by the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). For instance, eelgrass beds provide areas for fish egg laying, juvenile fish rearing, and water fowl foraging. Sensitive species, such as the California least tern, a federally listed endangered species, utilize eelgrass beds as foraging grounds.

Eelgrass surveys for each of the subject sites were most recently conducted on March 10, 2005. Previous eelgrass surveys were conducted on October 26, 1999, and November 18 & 19, 1999 and dated August 2000. Each of the eelgrass surveys was conducted by Tetra

Tech, Inc. The eelgrass surveys indicate that eelgrass is present in scattered patches around Trinidad and Humbolt Islands. According to the applicant's analysis, each of the project sites contains eelgrass and the proposed development will adversely impact eelgrass at each of the sites (see exhibit 3).

The applicants are proposing to mitigate the impacts to eelgrass by collecting stock material from donor sites including the project sites prior to construction, preparing the material for transplanting, replanting the eelgrass at the subject sites post construction, following up the transplant with monitoring surveys, and evaluating the success of the transplant. Proposed monitoring of the mitigation includes post-transplant monitoring surveys during the active vegetative growth periods of eelgrass (March through October) at intervals of 6 months, 12 months, 24 months, 36 months, 48 months, and 60 months after the transplant to determine the health of the transplanted vegetation and to evaluate transplant success based on established criteria per the Southern California Eelgrass Mitigation Policy. If yearly transplant criteria are not met, then a replant will be conducted. The amount to be replanted is based upon a formula that takes into account area and/or density deficiencies. The proposed success criteria are consistent with the requirements of the Southern California Eelgrass Mitigation Policy.

The proposed Eelgrass Mitigation Plan, dated January 2006, prepared by Tetra Tech, Inc. requires a pre-construction survey to confirm the location and boundary of the previously identified eelgrass beds and also locate any eelgrass beds not previously identified which may be impacted by development. In addition, a post construction eelgrass survey is required to adequately determine the actual amount of eelgrass impacted. The amount of eelgrass revegetation will be based on these pre- and post- construction surveys.

A significant amount of time has passed since the last eelgrass surveys were conducted. Due to the ephemeral nature of eelgrass, the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game recommends that eelgrass surveys be conducted during the active growth phase of eelgrass (typically March through October in southern California). In addition, the resource agencies state that any eelgrass survey performed is only valid until the beginning of the next growing season ("Southern California Eelgrass Mitigation Policy"). Based on these criteria, the eelgrass surveys provided are outdated. Therefore, the Commission imposes Special Condition 3.B. which requires that a valid pre-construction eelgrass survey be conducted within the boundaries of the proposed project during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth. The Commission previously imposed similar conditions for pre-construction eelgrass surveys on Coastal Development Permits 5-97-230 and 5-97-230-A1 (City of Newport Beach), 5-97-231 (County of Orange), 5-97-071 (County of Orange), 5-99-244 (County of Orange-Goldrich-Kest-Grau), 5-98-179 (Kompaniez), 5-98-201 (Anderson), 5-98-443 (Whyte), 5-98-444 (Barrad), 5-99-005 (Dea), 5-99-006 (Fernbach & Holland), 5-99-007 (Aranda et al.), 5-99-008 (Yacoel et. al.), 5-99-030 (Johnson), 5-99-031 (Lady Jr., et. al.), 5-99-032 (Appel et. al.), 5-99-108 (Pineda), 5-98-471 (Maginot), 5-99-472 (Bjork), and 5-99-473 (Gelbard), among others.

The proposed toe stone will be placed using a 40 foot by 50 foot barge mounted crane which will retrieve the material for placement from a nearby 40 foot by 60 foot barge upon which the material is staged. Construction activity, including barge anchoring, vessel propeller wash, and propeller contact with the harbor bottom could cause scarring to eelgrass beds beyond that which has been identified. The applicant has stated that the anchors for the barges will be placed to avoid eelgrass. The proposed eelgrass mitigation plan includes the following measures to protect eelgrass outside the toe stone footprint: 1) maps depicting all eelgrass in and around the project area will be provided to the contractor prior to commencement of any work; 2) boundaries of the avoidable eelgrass will be marked with buoys prior to initiation of work so that equipment and vessel operators will avoid damage to that eelgrass; 3) barges and other vessels will be anchored away from avoidable eelgrass and anchors and spuds will not be allowed to impinge upon any avoidable eelgrass; 4) installation of the rock blanket will be done in such a way as to avoid eelgrass as much as is practical; 5) in places where the rock is to be placed right next to eelgrass, a ramp, such as a sheet of plywood angled down toward the bulkhead, will be used to keep the rock off the eelgrass bed as it is placed; and, 6) eelgrass beds located on adjacent parcels shall be protected from any impacts by maintaining a buffer of at least 5 feet between the placement of a spud and the eelgrass. In order to assure that these measures are imposed, Special Condition 3 requires implementation of the eelgrass mitigation plan as proposed.

Also, the applicant is proposing to construct the development in a manner which minimizes impacts upon eelgrass by limiting the amount of toe stone placed. For instance, if the applicant were to install an excessive quantity of toe stone in a wide swath adjacent to the bulkhead, impacts to eelgrass could occur. Meanwhile, if too little toe stone were installed the needed protection would not be achieved. In this case, the applicant has designed the development with the optimal quantity of toe stone (i.e. enough to provide protection while minimizing the quantity and footprint). The applicant has provided drawings depicting the development with the minimized footprint, resulting in minimization of eelgrass impacts. If the applicant were not to construct the development in accordance with the plans submitted, additional impacts upon marine resources could occur. Therefore, the Commission imposes Special Condition 1 which requires the applicant to construct the development in accordance with the plans submitted. If any changes to the plans are necessary, Special Condition 1 requires the applicant to report the change to the Executive Director and to obtain an amendment to the coastal development permit or obtain a new coastal development permit, unless the Executive Director determines that no amendment or new permit is required.

Also, as noted above, eelgrass is a sensitive aquatic plant species which provides important habitat for marine life. Eelgrass grows in shallow sandy aquatic environments which provide plenty of sunlight. In 1999, a non-native and invasive aquatic plant species, *Caulerpa taxifolia*, was discovered in parts of Huntington Harbour (Emergency Coastal Development Permits 5-00-403-G and 5-00-463-G). *Caulerpa taxifolia* is a type of seaweed which has been identified as a threat to California's coastal marine environment because it has the ability to displace native aquatic plant species and habitats. Information available from the National Marine Fisheries Service indicates that *Caulerpa taxifolia* can grow in large monotypic stands within which no native aquatic plant species can co-exist. Therefore, native seaweeds, seagrasses, and kelp forests can be displaced by the

invasive *Caulerpa taxifolia*. This displacement of native aquatic plant species can adversely impact marine biodiversity with associated impacts upon fishing, recreational diving, and tourism. *Caulerpa taxifolia* is known to grow on rock, sand, or mud substrates in both shallow and deep water areas. Since eelgrass grows in shallow sandy areas, *Caulerpa taxifolia* could displace eelgrass in Huntington Harbour.

If present in the project area, *Caulerpa taxifolia* could be dispersed through construction of the proposed project. The placement of rock in areas where *Caulerpa taxifolia* is present could cause pieces of the plant to break off and settle elsewhere, where it can regenerate. By causing dispersal of *Caulerpa taxifolia*, the proposed project could have adverse impacts upon marine life, especially sensitive eelgrass habitat. In order to assure that the proposed project does not cause the dispersal of *Caulerpa taxifolia*, the Commission imposes Special Condition 4. Special Condition 4 requires the applicant, prior to commencement of development, to survey the project area for the presence of *Caulerpa taxifolia*. If *Caulerpa taxifolia* is present in the project area, no work may commence and the applicant shall seek an amendment or a new permit to address impacts related to the presence of the *Caulerpa taxifolia*, unless the Executive Director determines that no amendment or new permit is required.

Special Condition 1 requires the applicant to conform with plans submitted, assuring that impacts upon marine resources are known, avoided, minimized and mitigated, as necessary. Special Condition 2 addresses construction phase requirements to avoid adverse impacts on marine resources. Special Condition 3 assures that impacts to eelgrass are mitigated. Special Condition 4 assures that the project will not cause dispersal of the non-native, invasive *Caulerpa taxifolia* with subsequent displacement of eelgrass habitat. Special Condition 6 assures that eelgrass is not impacted by the placement of anchors for constructed related barges. As conditioned, the Commission finds that the proposed project is consistent with Section 30230 of the Coastal Act.

F. Water Quality

Section 30231 of the Coastal Act states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The proposed project will involve the placement of toe stone consisting of 8-inch diameter or smaller quarry waste in coastal waters. If such materials are not placed in an appropriate manner, unconsolidated bay sediments may be disturbed causing turbidity in the water column. The applicant has stated that turbidity will be addressed by first installing the proposed geotextile fabric in the area where the toe stone will be placed and by placing, not dumping, the toe stone at the target location. The applicant has

additionally stated that a silt curtain will be used in the event that turbid conditions are generated during construction. Since the proposed methods are required to assure compliance with Section 30231 of the Coastal Act, the Commission imposes Special Condition 2.

The proposed development will occur within and adjacent to coastal waters. Construction will require the use of heavy machinery and require the stockpiling of construction materials. In order to protect the marine environment from degradation, Special Condition 2 requires that all construction materials and machinery shall be stored away from the water. In addition, no machinery or construction materials not essential for the project improvements shall be placed in coastal waters. Local sand, cobbles, or shoreline rocks, not presently used in the existing development, shall not be used for backfill or construction material.

The proposed development has been reviewed by the California Regional Water Quality Control Board (RWQCB), Santa Ana Region. The RWQCB has waived waste discharge requirements for the project.

Therefore, as the conditioned, the Commission finds the proposed development is consistent with Section 30231 of the Coastal Act.

G. Public Access

Section 30212 of the Coastal Act states in relevant part:

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

(2) adequate access exists nearby, or,

(b) For purposes of this section, "new development" does not include:

(4) The reconstruction or repair of any seawall; provided, however, that the reconstructed or repaired seawall is not a seaward of the location of the former structure.

The subject sites are located on Trinidad and Humbolt Islands in Huntington Harbour. Much of the Huntington Harbour waterfront is inaccessible to the public. However, Trinidad Island is publicly accessible via a bridge from the mainland. On-street parking is the major source of public parking. In addition, a small public beach flanks Trinidad Lane at the entrance to Trinidad Island, and public fishing docks are located at the ends of Sundancer Lane and Typhoon Lane on Trinidad Island. A public walkway extends for much of the length of Venture Drive and along Typhoon Lane. A public park runs through the center of Trinidad Island. Humbolt Island is publicly accessible via a bridge from the mainland. On street parking is also publicly available. A small public beach flanks Humbolt Drive at the entrance to Humbolt Island.

The proposed development involves structural reinforcements to an existing bulkhead which would result in seaward encroachment of the structure. Therefore, the proposed project is considered new development for the purposes of Coastal Act section 30212. However, the proposed project would be underwater. There is no beach area which provides lateral public access on-site upon which the proposed project would encroach. Further, there is no beach area off-site which provides public access that could be eroded as a result of changes in shoreline processes due to the proposed project. In addition, a special condition is imposed to make it clear that approval of this permit does not constitute a waiver of any public rights that exist or may exist on the property.

Therefore, the Commission finds that no public access dedication is necessary with the proposed development and that the proposed project is consistent with section 30212 of the Coastal Act.

G. Local Coastal Program

Coastal Act section 30604(a) states that, prior to certification of a local coastal program (“LCP”), a coastal development permit can only be issued upon a finding that the proposed development is in conformity with Chapter 3 of the Act and that the permitted development will not prejudice the ability of the local government to prepare an LCP that is in conformity with Chapter 3. An LCP for the City of Huntington Beach was effectively certified in March 1985 and subsequently updated. However, the proposed development is occurring within an area of the Commission’s original permit jurisdiction, due to the project location seaward of the mean high tide line. Consequently, the standard of review is the Coastal Act and the City’s LCP is used only as guidance. As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act and with the certified LCP for the area.

H. California Environmental Quality Act (CEQA)

Section 13096 Title 14 of the California Code of Regulations requires Commission approval of a coastal development permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

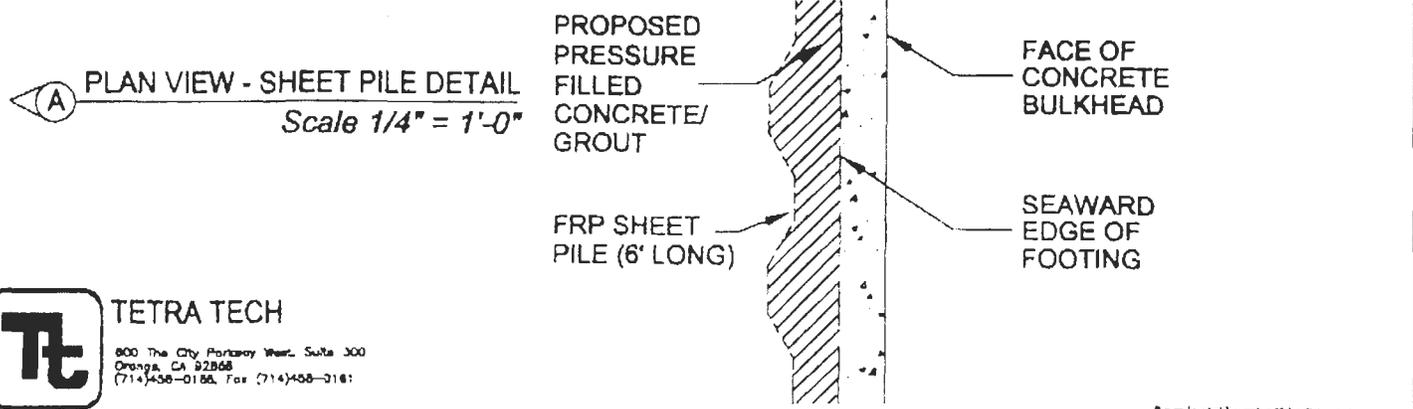
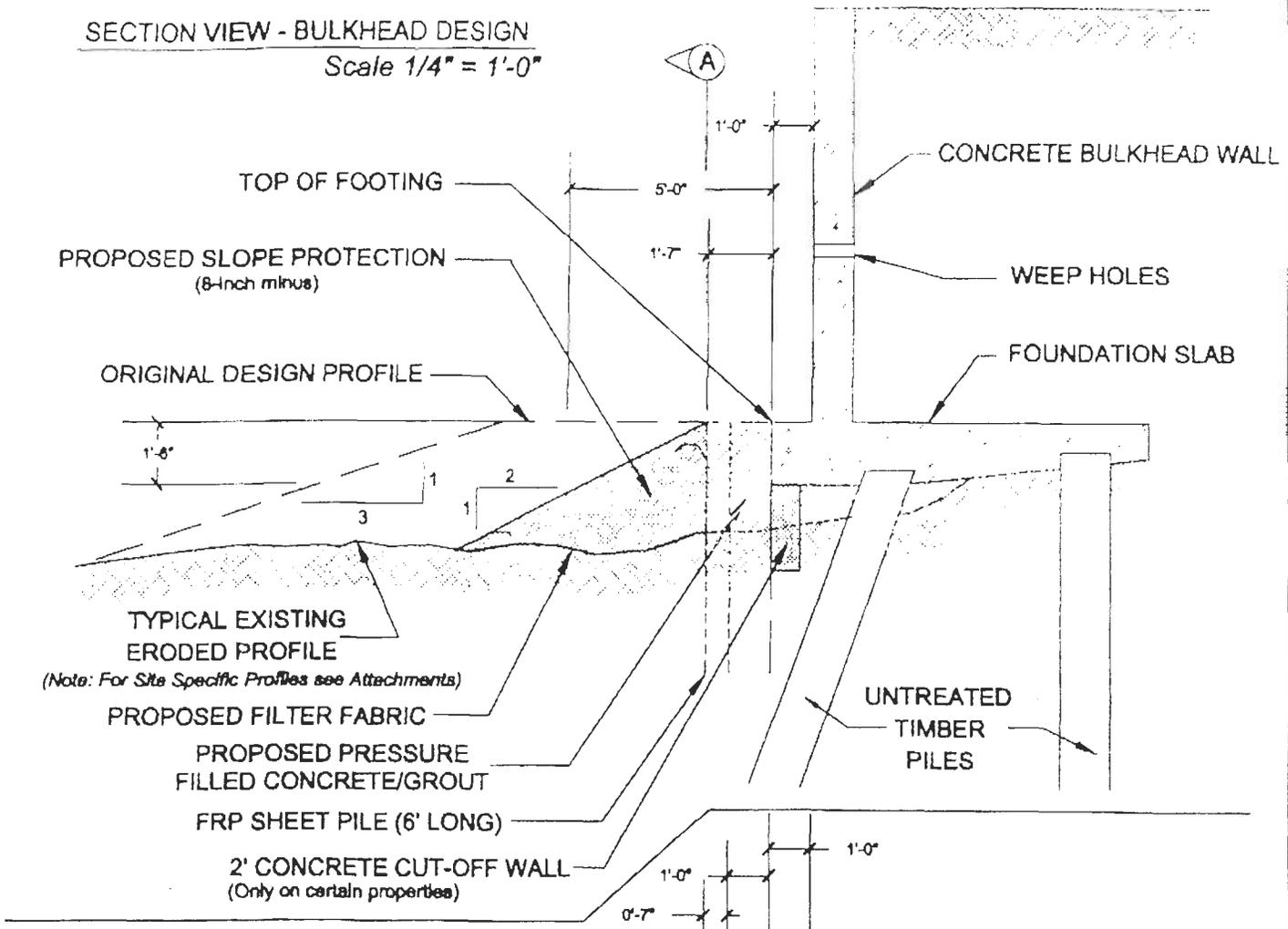
The proposed project, as conditioned, has been found consistent with the Chapter 3 policies of the Coastal Act. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

The project is located in an existing harbor in an urbanized area. Development already exists on the subject site. Impacts to eelgrass will be mitigated. In addition, the proposed

development has been conditioned to assure the proposed project is consistent with the resource protection policies of the Coastal Act. The conditions also serve to mitigate significant adverse impacts under CEQA. The conditions are: 1) a requirement that the applicant comply with plans submitted with the application; 2) a requirement that the applicant conform with specific construction responsibilities to avoid impacts upon water quality and marine resources; 3) a requirement to conduct pre- and post-eelgrass construction surveys, and where any impacts occur those impacts be mitigated; 4) a requirement that the applicant prepare a survey to confirm the absence of *Caulerpa taxifolia* in the project area; 5) a requirement that the applicant acknowledge that this coastal development permit is not a waiver of any public rights which may exist on the property, and 6) a requirement for the submittal of an anchor management plan. There are no other feasible alternatives or mitigation measures available which will lessen any significant adverse impact the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned, can be found consistent with the requirements of CEQA.

SECTION VIEW - BULKHEAD DESIGN

Scale 1/4" = 1'-0"



TETRA TECH
 800 The City Parkway West, Suite 300
 Orange, CA 92668
 (714)458-0188, Fax (714)458-3181

\\projects\humboldt\bulkhead.dwg

PURPOSE: Repair Existing Seawall

Datum: MLLW = 0
 Adj. Property Owners:
 1. See Attached List

FIGURE 4.
 ORIGINAL BULKHEAD DESIGN
 AND SHEET PILE DETAIL

Humboldt Island & Trinidad Island
 Huntington Beach, CA 92649

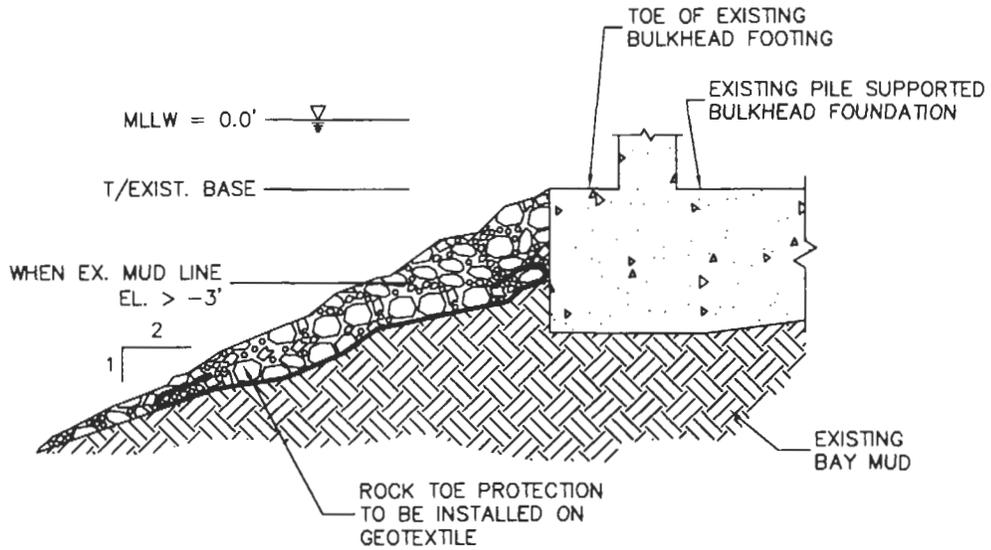
Proposed Repair of Existing Seawall

Supplemental Info. Report

California Coastal Commission
 Date: 3/18/99

Original Bulkhead Design with Repairs to Bulkhead Shown when Erosion at the Base of the Existing Bulkhead is Moderate to Severe

COASTAL COMMISSION
 PLANS
 EXHIBIT # 2
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SECTION AT FOOTING TOE: CASE IV 1
 SCALE: 3/8" = 1'-0" (FOR ROCK BACK FILL ONLY)

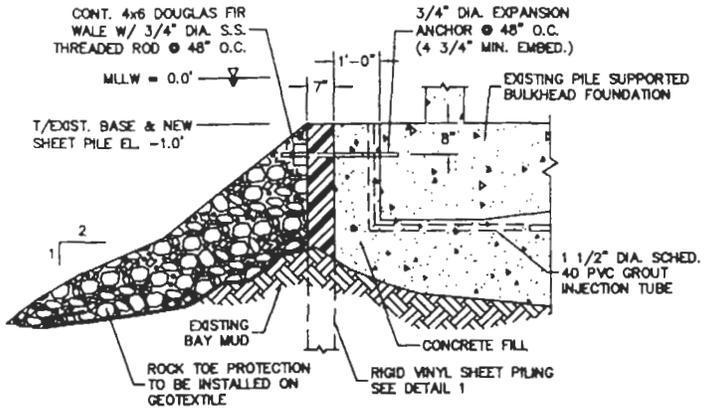
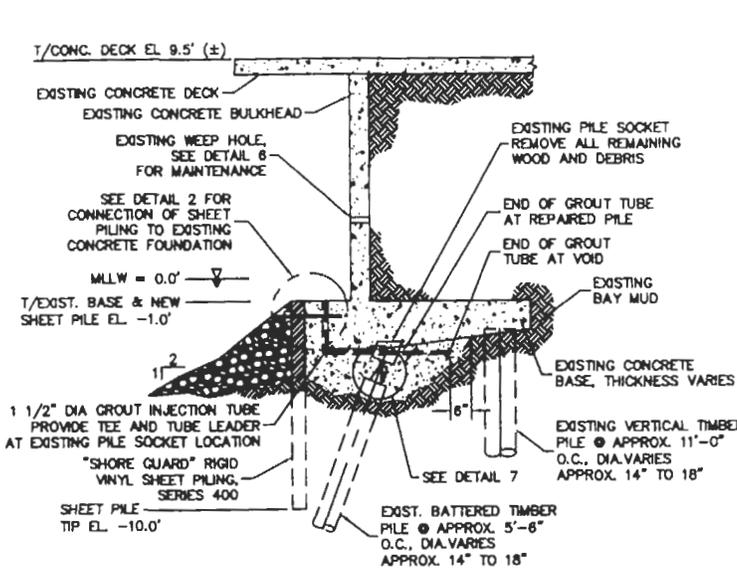
**COASTAL COMMISSION
 PLANS**

EXHIBIT # 2
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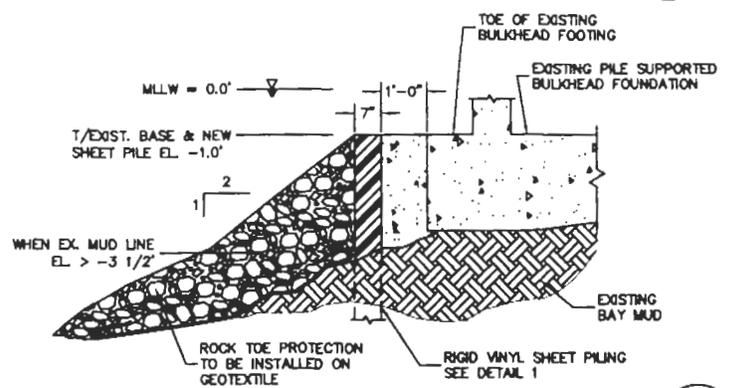
TETRA TECH
 670 North Rosemead Blvd.
 Pasadena, CA 91107
 (626)351-4664, Fax (626)351-5291

<p>Aug '03 Bulkhead Repair Bid Drawings</p> <p>Sheet 1 of 3</p>	<p>SECTION VIEW</p>	
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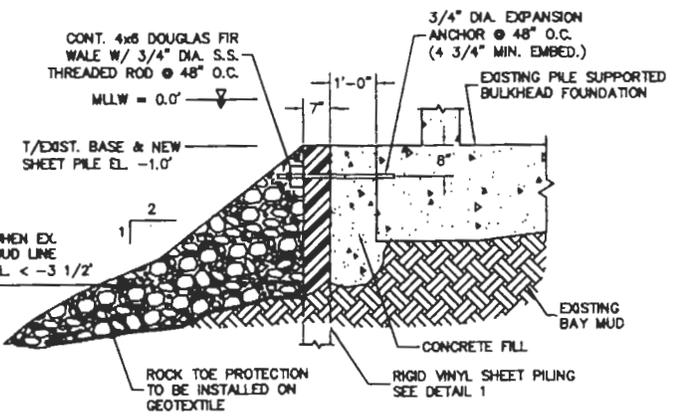


SECTION AT WALE: CASE I
SCALE: 1/4" = 1'-0" (FOUNDATION UNDERMINED) 2

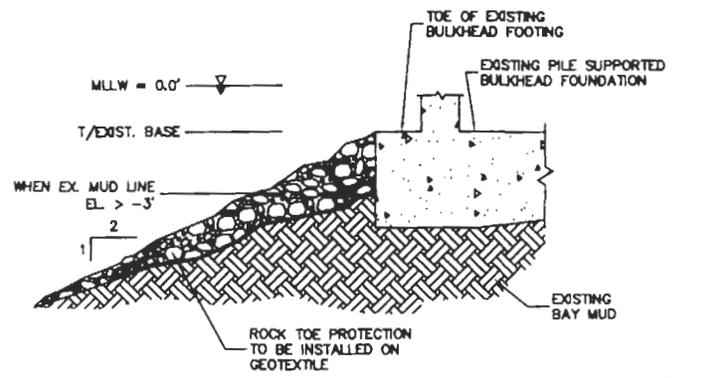
SECTION AT TIMBER PILE REPAIR 1
SCALE: 1/8" = 1'-0"



SECTION AT SHEET PILE: CASE III
SCALE: 1/4" = 1'-0" (FOR CANTILEVERED SPANS OF 30" OR LESS SUPPORT WALE NOT REQUIRED) 4



SECTION AT WALE: CASE II
SCALE: 1/4" = 1'-0" (FOR CANTILEVERED SPANS OF 30" OR MORE SUPPORT WALE REQUIRED) 3



SECTION AT SHEET PILE: CASE IV
SCALE: 1/4" = 1'-0" (RIP-RAP TOE PROTECTION ONLY) 5

TT TETRA TECH
670 North Rosemead Blvd.
Pasadena, CA 91107
(826)351-4664, Fax (826)351-5291

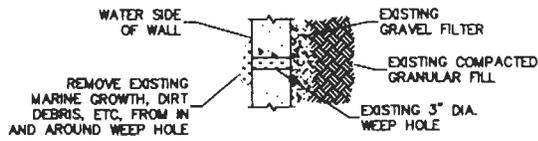
Aug '03 Bulkhead Repair
Bid Drawings

SECTION VIEW

COASTAL COMMISSION

Sheet 2 of 3

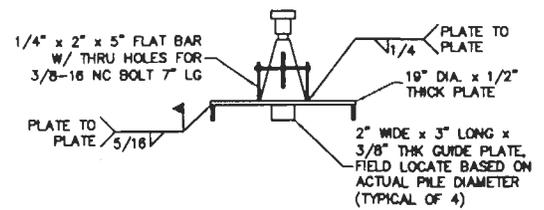
EXHIBIT # 2
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WEEP HOLE DETAIL

SCALE: 1/4" = 1'- 0"

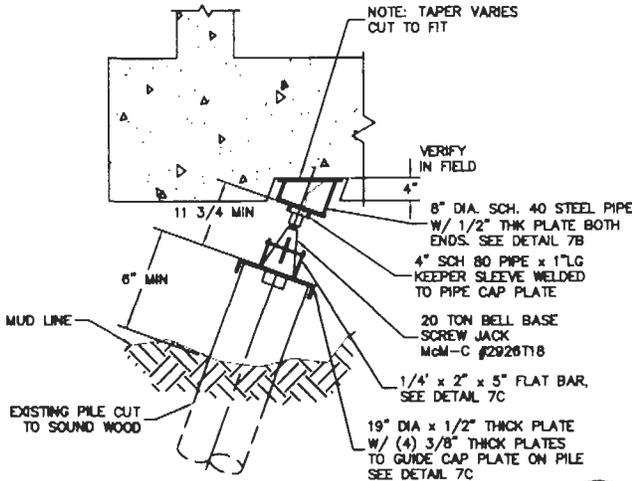
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PILE CAP PLATE DETAIL

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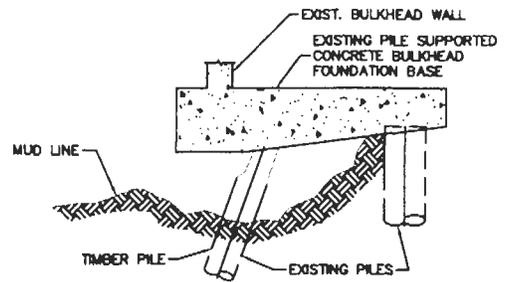
7C



JACKING DETAIL

SCALE: 3/4" = 1'- 0"

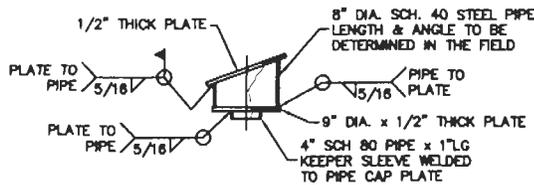
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SECTION 25% OR LESS PILE DETERIORATION

SCALE: N.T.S. PILE REPAIR NOT REQUIRED SEE DETAIL 2

8

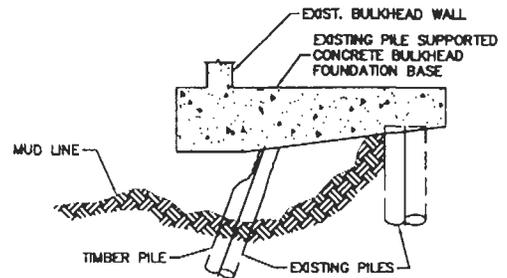


JACKING ASSEMBLY DETAIL

SCALE: N.T.S.

NOTES: FIELD MEASURE EXISTING PILE SOCKET IN CONCRETE BASE SLAB AND CUT TOP PLATE TO FIT SOCKET.
CENTERLINE TOP PLATE = CENTERLINE PIPE
CENTERLINE PIPE = CENTERLINE JACK

7B



SECTION 25% OR MORE PILE DETERIORATION

SCALE: N.T.S. PILE REPAIR REQUIRED SEE DETAILS: 1 & 2

9



TETRA TECH

870 North Rosemead Blvd.
Pasadena, CA 91107
(626)351-4664, Fax (626)351-5291

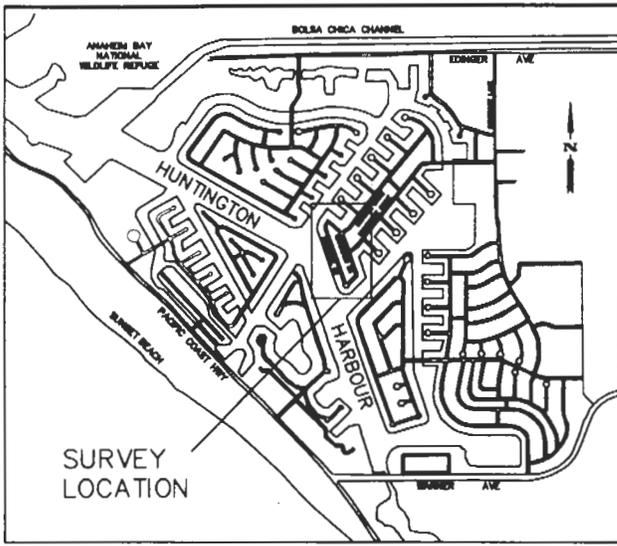
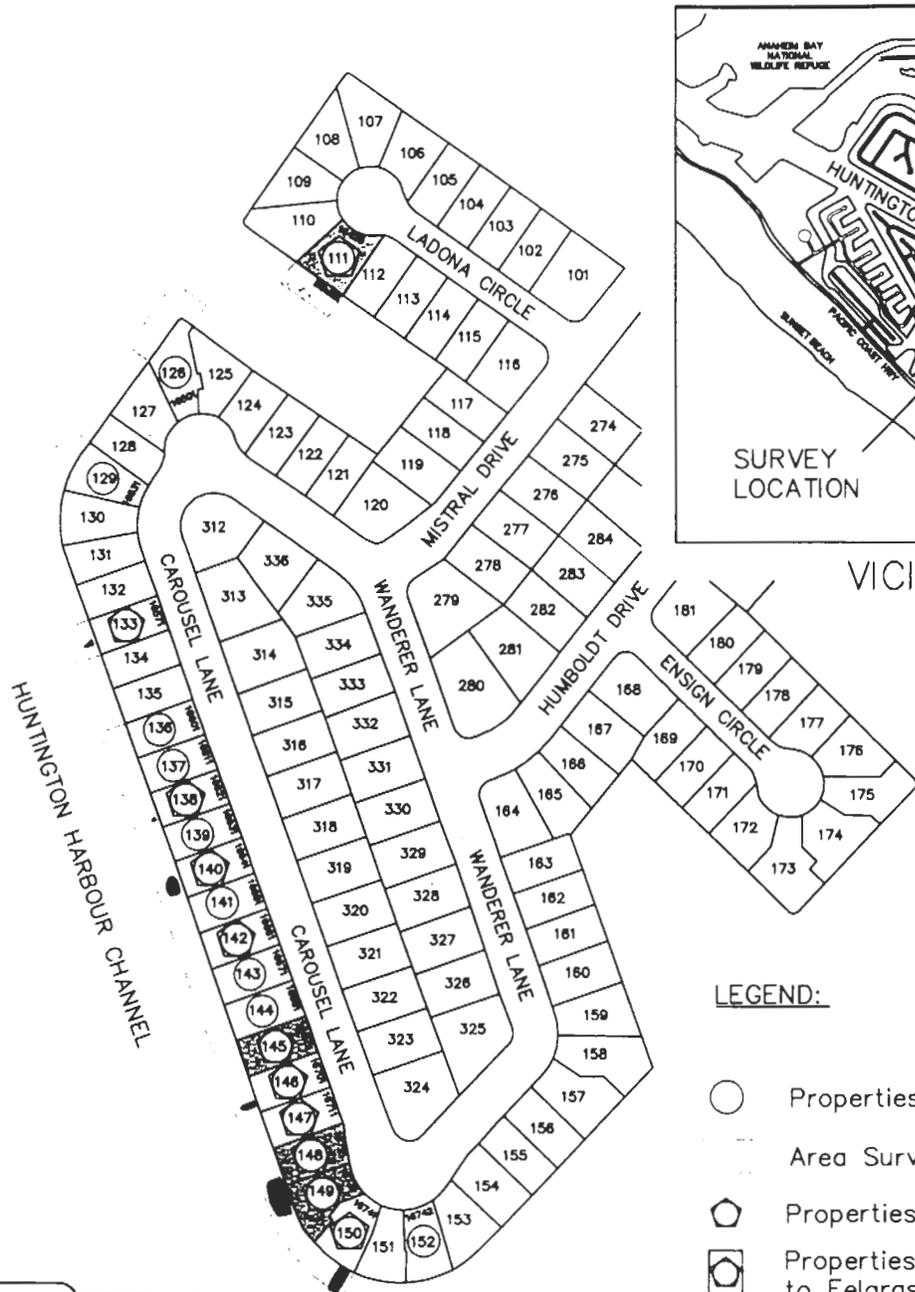
Aug '03 Bulkhead Repair
Bid Drawings

SECTION VIEW

COASTAL COMMISSION

Sheet 3 of 3

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VICINITY MAP

LEGEND:

- Properties Surveyed
- Area Surveyed
- ⬡ Properties with Eelgrass within 10m
- ⊕ Properties with Anticipated Impact to Eelgrass
- Eelgrass (*Zostera marina*)

Tt TETRA TECH
 401 East Ocean Blvd., Suite 810
 Long Beach, CA 90802
 (562) 495-0495, Fax (562) 495-5029

Coastal Development Permits
 5-99-030
 5-99-031
 5-99-032
 5-99-108

COASTAL COMMISSION

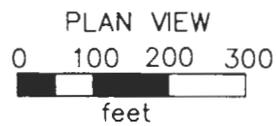


Figure 2
 Eelgrass Survey Results
 March 2005
 Huntington Beach
 County of Orange State: CA

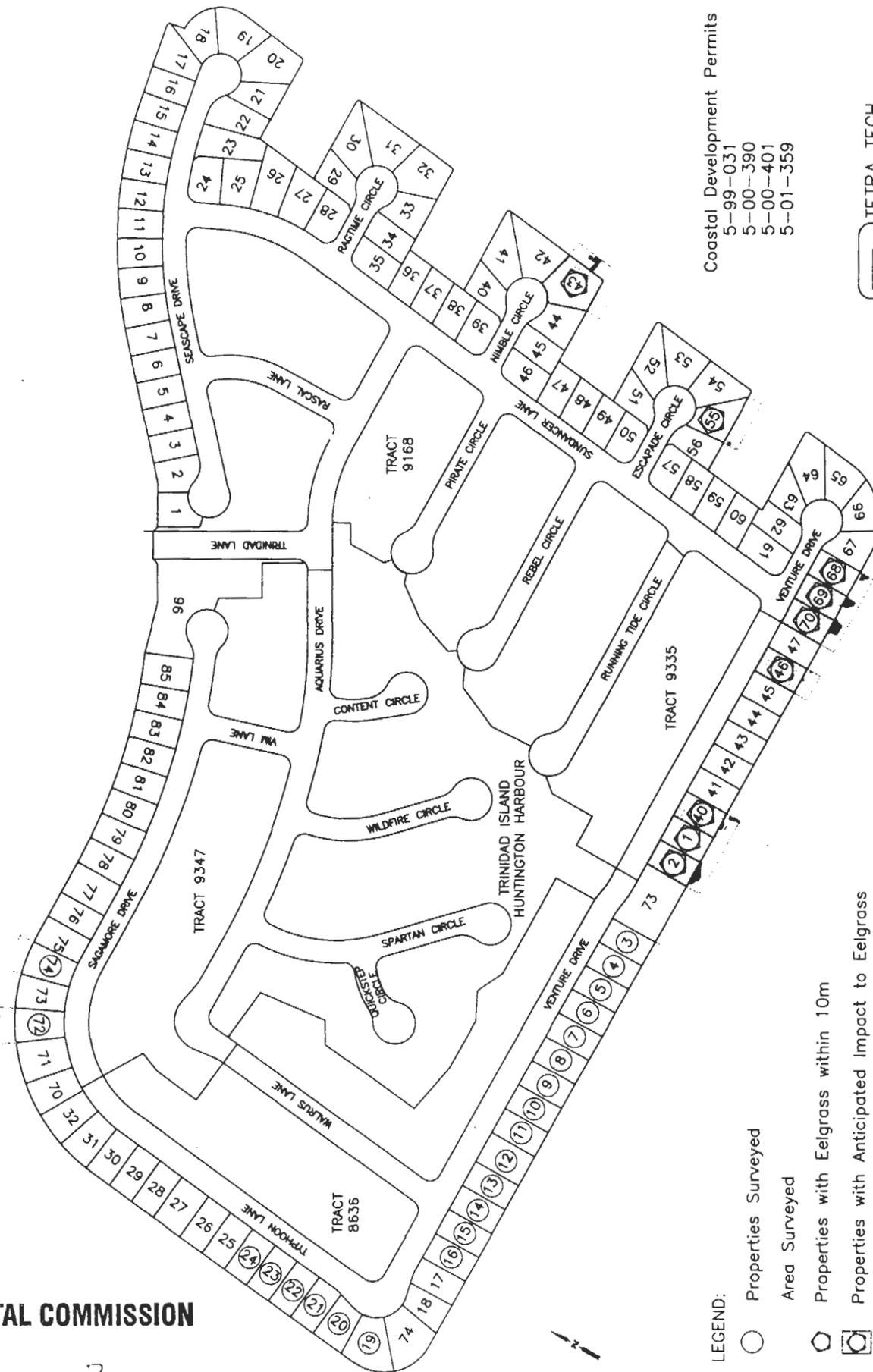
EXHIBIT # 3
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Humboldt Island
 Huntington Harbour

COASTAL COMMISSION

EXHIBIT # 3

PAGE 3 OF 2



Coastal Development Permits
 5-99-031
 5-00-390
 5-00-401
 5-01-359



- LEGEND:
- Properties Surveyed
 - Area Surveyed
 - Properties with Eelgrass within 10m
 - Properties with Anticipated Impact to Eelgrass
 - Eelgrass (*Zostera marina*)

FIGURE 3. Trinidad Island Eelgrass Survey Results, Huntington Beach California, April 2005.

To : Mr. Karl Schwing
California Coastal Commission
200 Ocean Gate Avenue Suite 1000
Long Beach, California 90802

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CALIFORNIA
COASTAL COMMISSION
JUL 14 1999

Date July 6, 1999

From : Department of Fish and Game

Subject : Humboldt Island Homeowners Association Bulkhead Repair

This memo is in response to a request from Ms. Sarah McFadden, Tetra Tech Inc., representing the Humboldt Island Homeowners Association, concerning proposed project plans to repair and renovate existing bulkheads for 36 residences on southern Humboldt Island, Huntington Harbor, Huntington Beach, Orange County, California. Damaged piles will be removed and/or repaired at three properties. At 19 properties, vinyl sheet-pile will be installed 1 foot 7 inches seaward of the bulkheads. At all 36 properties a protective rip-rap footing, comprised of quarry waste material ranging from sand to 8 inch fragments, will be placed at the bulkheads. The footing will extend a maximum of 11 feet from the bulkheads.

The proposed project will impact hardscape, the water column, and soft bottom habitat. Impacts to hardscape (i.e., existing bulkheads and structures) and the water column are considered temporary, as the water quality will return to pre-construction conditions and the new structures will eventually be colonized by attachment organisms. However, impacts to soft bottom habitat will not be temporary. Based on information provided to the Department by Tetra Tech Inc., "expansion" of 19 bulkheads will result in a permanent loss of approximately 1,581 square feet of marine soft bottom bay habitat. In addition, approximately 17,700 square feet of soft bottom habitat will be buried by placement of rip-rap. Approximately 780 square feet of this soft bottom substrate is eelgrass (*Zostera marina*) habitat.

The permanent loss of marine soft bottom bay habitat is of concern to the Department. The Department strongly recommends that bulkhead projects be designed to eliminate or minimize loss of marine bay habitat. To accomplish this goal, we recommend that each property owner strive to construct its bulkhead either in place of the existing bulkhead or immediately in front of the existing bulkhead so that installation results in no net loss of intertidal habitat when measured at the Mean Higher High Water line. The Humboldt Island Homeowners' project has proposed sheet piling to be placed 1 foot 7 inches seaward of those bulkheads in need of repair. The sheet piling retains concrete and grout which is pumped in to fill existing voids in the bulkhead. Presumably the 1 foot 7 inch distance is necessary to allow sufficient clearance for concrete and grout piping, and to enable a pneumatic hammer to clear the bulkhead footing. It is the Department's position that bulkhead projects be constructed in such a manner to be the least environmentally damaging practicable alternative. Thus, we recommend the project proponent investigate alternative methodologies for filling voids in bulkheads. If this is deemed structurally unfeasible, then any incurred loss of marine soft bottom bay habitat should be mitigated.

CALIFORNIA COASTAL COMMISSION
1
COPY # 4
OF 4

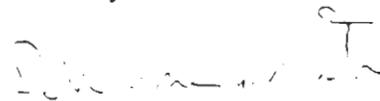
The Department recognizes that placement of rip-rap at the bulkheads would result in an initial loss of ecological benefits to species associated with soft bottom habitat. However, in the case of unvegetated soft bottom habitat this loss would likely be short-term, as different organisms would recolonize the rip-rap. Thus, we believe that placement of rip-rap on unvegetated soft bottom habitat would not have a significant impact on the environment.

In contrast, impacts to vegetated soft bottom habitat, i.e., eelgrass, from placement of rip-rap are significant. It is well documented that eelgrass habitat provides forage, cover, reproductive opportunities, and other benefits to various fish species, and may be used by these species as permanent residence or nursery habitat. Impacts to eelgrass habitat have significant impacts on the environment, and eelgrass loss must be mitigated.

The project proponents plan to offset the loss of eelgrass in a manner consistent with the Southern California Eelgrass Policy, as amended. However, a specific eelgrass mitigation plan identifying the mitigation site has not been detailed at this time. In addition, the project proponent has not proposed a mitigation plan, nor recognized the necessity to compensate for the loss of 1,581 square feet of marine soft bottom bay habitat. The location and plans for mitigation sites are the responsibility of the project proponent. Therefore, until appropriate mitigation plans both for eelgrass loss and loss of soft bottom habitat have been developed and provided to the Department for review and approval, we cannot support this project.

As always, Department personnel are available to discuss our comments, concerns, and recommendations in greater detail. To arrange for a discussion, please contact Ms. Marilyn Fluharty, Environmental Specialist, California Department of Fish and Game, 4949 Viewridge Avenue, San Diego, California 92123, or by telephone at (619) 467-4231.

Sincerely,



DeWayne Johnston
Regional Manager
Marine Region

cc: Ms. Marilyn Fluharty
Department of Fish and Game
San Diego, California

COASTAL COMMISSION

EXHIBIT # 4
PAGE 2 OF 4

DEPARTMENT OF FISH AND GAME

MARINE REGION

BURGESS DRIVE

NLO PARK, CA 94025

TEL 688-6340



August 31, 2000

RECEIVED

SEP 05 2000

Department of Planning

Ms. Mary Beth Broeren
Senior Planner
City of Huntington Beach
2000 Main Street
Huntington Beach, California 92648

Dear Ms. Broeren:

Department of Fish and Game (Department) personnel have reviewed the Draft Negative Declaration/ Environmental Assessment No. 00-05 for the Humboldt Island and Trinidad Island Seawall Repairs (No. 00-05). The proposed project will repair and renovate existing bulkheads at 40 properties on Humboldt Island and 64 properties on Trinidad Island, Huntington Harbor, Huntington Beach, Orange County, California. It is anticipated that 24 properties will require removal and/or repair of damaged piles. At 44 properties, vinyl sheet-pile will be installed 1-foot, 7-inches seaward of the bulkheads. At all properties, a protective rip-rap footing comprised of quarry waste material, ranging from sand to 8-inch fragments, will be placed at the bulkheads. The footing will extend a maximum of 11 feet from the bulkheads. Sheet-pile installation will eliminate soft bottom habitat while slope protection will impact eelgrass (*Zostera marina*) habitat.

Tetra Tech, Inc., the property owners' authorized agents, have prepared two separate mitigation plans to compensate for loss of soft bottom habitat and impacts to eelgrass. The "Soft Bottom Mitigation Plan," describes procedures to restore and create tidal influence to existing wetland areas located in the Bolsa Chica Ecological Reserve, managed by the Department, in an area bordered by Pacific Coast Highway and Warner Avenue, approximately 0.5- to 1.2-miles southwest of the bulkhead projects. The "Eelgrass Mitigation and Eelgrass Transplant Report," describes procedures for eelgrass transplant at a site delineated for eelgrass mitigation by Orange County, approximately 1 mile northwest of the impact area. Tetra Tech, Inc., transplanted 3,600 square feet of eelgrass in June 2000.

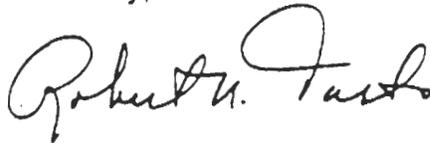
The Department has reviewed the mitigation plans and finds them adequate compensation for project induced losses. Thus, we conclude that the project, as currently proposed, would not have a significant adverse impact upon the existing marine environment provided the described mitigation plans are carried out in full.

COASTAL COMMISSION

EXHIBIT # 4
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As always, Department personnel are available to discuss our comments, concerns, and recommendations in greater detail. To arrange for a discussion, please contact Ms. Marilyn Fluharty, Environmental Specialist, California Department of Fish and Game, 4949 Viewridge Avenue, San Diego, CA 92123, telephone (858) 467-4231.

Sincerely,



Robert N. Tasto, Supervisor
Project Review and Water Quality Program
Marine Region

cc: Ms. Marilyn Fluharty
Department of Fish and Game
San Diego, CA

COASTAL COMMISSION

EXHIBIT # 4
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Applicants Engineering Analyses and Letters

- Letter from Tetra Tech, Inc. to California Coastal Commission titled *Response to May 12, 1999 Letter Regarding Follow-Up Notice of Incomplete Applications* dated May 24, 1999
- Letter from Tetra Tech, Inc. to California Department of Fish and Game dated July 29, 1999
- Letter from Tetra Tech, Inc. to California Coastal Commission titled *Coastal Development Permit Applications for Humboldt Island Bulkhead Repairs* dated August 18, 1999
- Letter from Tetra Tech, Inc. to California Coastal Commission titled *Coastal Development Permit Applications for Humboldt Island Bulkhead Repairs* dated August 25, 1999

Biological Surveys and Mitigation Plans

- *Eelgrass Survey Report, Trinidad Island – Huntington Harbour* conducted October 26, 1999, and November 18 & 19, 1999 and dated August 2000 prepared by Tetra Tech, Inc. of Pasadena, CA
- *Eelgrass Mitigation and Eelgrass Transplant Report, Humboldt Island & Trinidad Island Bulkhead Repair Project, Huntington Beach, California* dated August 2000 prepared by Tetra Tech, Inc. of Pasadena, California
- *Soft Bottom Mitigation Plan, Humboldt Island and Trinidad Island Bulkhead Repair Project, Huntington Beach, California* dated April 2000 prepared by Tetra Tech, Inc. of Pasadena, California
- *Eelgrass (Zostera marina) survey, impact assessment, and mitigation plan* dated December 1999 prepared for the County of Orange by Coastal Resources Management.

Local Government Approvals

- *Negative Declaration No. 00-05 for the Humboldt Island and Trinidad Island Seawall (Bulkhead) Repairs* prepared by the City of Huntington Beach and Tetra Tech, Inc. of Pasadena, California

California Department of Fish and Game Letters and Approvals

- Memorandum from California Department of Fish and Game to the California Coastal Commission titled *Humboldt Island Homeowners Association Bulkhead Repair* dated July 6, 1999
- Letter from California Department of Fish and Game to City of Huntington Beach dated August 31, 2000 approving the Soft Bottom Mitigation Plan and Eelgrass Mitigation and Eelgrass Transplant Report cited above

Other Agency Approvals and Correspondence

- Letter from the California State Lands Commission dated March 24, 2000 regarding *Proposed Bulkhead Repairs on 62 Residential Properties at Trinidad Island, Huntington Harbour, Orange County*
- California Regional Water Quality Control Board, Santa Ana Region, Clean Water Act Section 401 Water Quality Certification for the Proposed Trinidad Island Bulkhead Repair on Properties Containing Eelgrass and Soft Bottom Habitat, City of Huntington Beach (ACOE Reference #200100038-YJC) dated December 8, 2000

Coastal Development Permits

Exhibit 5 p. 1 of 2

- Eelgrass Impacts: 5-97-230 and 5-97-230-A1 (City of Newport Beach), 5-97-231 (County of Orange), 5-97-071 (County of Orange), and 5-99-244 (County of Orange-Goldrich-Kest-Grau)
- Emergency Coastal Development Permit 5-00-403-G
- Humboldt Island Bulkhead Reinforcements: 5-97-223 (Shea/Albert); 5-98-179 (Kompaniez), 5-98-201 (Anderson), 5-98-443 (Whyte), 5-98-444 (Barrad), 5-99-005 (Dea), 5-99-006 (Fernbach & Holland), 5-99-007 (Aranda et al.), 5-99-008 (Yacoel et. al.), 5-99-030 (Johnson), 5-99-031 (Lady, Jr./Zlatko/Woods), 5-99-032 (Yacoel et al), 5-99-108 (Pineda), 5-98-471 (Maginot), 5-99-472 (Bjork), 5-99-473 (Gelbard)

Pending Coastal Development Permit Applications

- Trinidad Island: 5-00-389 (Ashby et. al.); 5-00-390 (Burggraf et. al.); 5-00-402 (Buettner et. al.)